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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,898	10/10/2000	Yosuke Shirata	980511B	2212

7590

03/19/2002

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EXAMINER

NGUYEN, HUNG

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 03/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/684,898	SHIRATA, YOSUKE	
	Examiner	Art Unit	
	Henry Hung V Nguyen	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-15, 17 and 19-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-15, 17 and 19-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/055,954.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 5-6, 8-13, 15-17, 19-28 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Semba (U.S.Pat. 6,133,981).

With regard to claims 5-6, 8-13, 15-17, 19-28, Semba discloses a processing system comprising all of the structures set forth in the instant claims such as: an exposure system (S) for exposing a substrate and which is connected to coating/developing system (1) for processing the substrate before or after exposure (see fig.1); a sensor (101) for obtaining the environmental condition of the processing chamber (1) and a sensor (102) for obtaining the environmental condition of the exposure chamber (S) and a control system (104) for controlling at least the environment of the exposure chamber in accordance with data obtained from the processing chamber (see col.6, lines 18-27).

With respect to the intervening effective filing date of Semba, applicants' attention is directed to the procedure set forth in MPEP section 201.15.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10-15, 17, 19-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umatate et al (U.S.Pat. 5,243,377).

With regard to claims 1-8, 10-15, 17, 19-29, Umatate et al (fig. 1) discloses a lithography system comprising a plurality of exposure apparatus (EXP1 to EXPn) for transferring a pattern formed on a mask onto a substrate wherein each of which is different from each other ; and a plurality of substrate process apparatuses for processing the substrate; where the plurality exposure apparatuses and the substrate processing apparatuses (coater developers) are used in parallel manner (see col.1, lines 20-40); measuring devices for measuring specific information in each of the exposure apparatus and variable according to operating conditions of each of the exposure apparatus and coater developer apparatus (see abstract and col.2, lines 35-39; and lines). Umatate et al does not expressly disclose the environment of the exposure apparatus being adjusted the same as the environment in the substrate processing apparatus based in "an environment sensor". However, Umatate et al does teach the lithography system further having an information gathering apparatus for gathering the measured specific information ; and a system observer apparatus and a host computer (H-com) controls, modifies and corrects working

parameters each of the exposure apparatus and processing apparatus based on the gathering information. In view of such teachings, it would have been obvious to one having ordinary skill in the art to modify the teachings of Umatate to obtain the invention as specified in claims of the instant invention. It would have been obvious to a skilled artisan to adjust the environmental condition (such as temperature, humidity or pressure) of the exposure apparatus the same as the environmental condition of the substrate processing apparatus "in such a manner that the operating conditions can be stably maintained" as suggested by Umatate.

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4. Claims 1-8, 10-15, 17 and 19-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasegawa et al (U.S.Pat. ^{5,828,572}~~5,871,587~~) in view of Umatate et al (U.S.Pat. 5,243,377).

With regard to claims 1-8, 10-15, 17 and 19-29, Hasegawa discloses a processing system and semiconductor production method which includes all of the claimed subject matter in the above claims. Hasegawa teaches a lithography method and apparatus including the following (see Figure 1, and page 2, line 32-page 3 line 22): an exposure apparatus (3), a substrate processing apparatus (4), environment sensors which measure temperature (9a-c), environment control devices (7a-e, 8a-e), wherein (see Figure 3):

- a. the substrate processing apparatus is a coater, which coats the substrate before exposure, and a developer, which develops the substrate after exposure, (page 2 lines 45-48),
- b. the data measured by the sensors is temperature, (page 3 lines 6-11),
- c. the environment controllers are guided by the data gathered from the sensors, (page 3 lines 14-22),

- c. the exposure apparatus and substrate processing apparatus are separately housed,
(Figure 1)
- d. the exposure apparatus and substrate processing apparatus are an in-line system,
(Figure 1),
- e. the environment of the exposure apparatus and the [substrate] processing apparatus are
controlled to be substantially the same.

Regarding Claims 20 and 23, the claimed method of making the above exposure and substrate processing apparatuses is inherent in the existence of the apparatuses, that is, in the construction of Hasegawa's apparatus, necessarily an adjusting device (7a-e) and a controlling device (11) were provided.

Regarding Claim 26, see page 3, lines 57-63. The monitor 11 monitors the conditions in the processing chambers and adjusts the environment of the processing chambers accordingly.

Regarding Claims 27 and 28, see figure 1. The system of Hasegawa teaches:

- a. a chamber (2) disposed around the exposure body system (3),
- b. a chamber (2) disposed around the substrate processing apparatus (4),
- b. an adjusting device (7a-e) connected to said chamber,
- c. a control device (8a-e) which controls the environment in the chamber depending on the environment of the substrate processing apparatus or the exposure apparatus.

Hasegawa et al does not expressly teach "an environmental sensor provided in at least one of the first and the second chambers which measures an environment in said at least one of the first and second chamber". However, Hasegawa teaches "monitoring the operating state of the exposure chamber 3 (see col.3, lines 16-18); and "monitors the processing parameters of each processing parameters of each processing chamber (see col.3, line 57-59). This provides a clear

suggestion that it would have been obvious to one having ordinary skill in the art at the time the invention was made to place at least "a sensor" in the exposure apparatus chamber and substrate processing chamber for monitoring at least the environment conditions of these chambers. The purpose of doing so would have been to at least maintain a same cleanliness environment condition for both exposure apparatus chamber and substrate processing chamber.

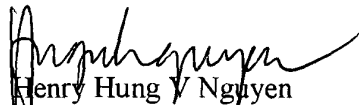
Response to Amendment

5. Applicant's amendment filed December 21, 2000 have been entered. Claims 9, 16, 18 are cancelled. Claims 1, 2, 5, 7, 12-1520, 23, 26-28 are amended. With respect to prior art rejection, applicant's arguments have been carefully considered but have been traversed in view of new ground rejections as set forth above.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry Hung V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.


Henry Hung V Nguyen
Examiner
Art Unit 2851

hvn
March 14, 2002